(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



. | COLOR DE COLOR D

(43) International Publication Date 30 June 2005 (30.06.2005)

PCT

(10) International Publication Number WO 2005/05995 A3

(51) International Patent Classification⁷: 23/552, 23/31, 23/495

H01L 23/433,

(21) International Application Number:

PCT/GB2004/005217

(22) International Filing Date:

17 December 2004 (17.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0329351.1 18 December 2003 (18.12.2003) GB 0423172.6 19 October 2004 (19.10.2004) GB

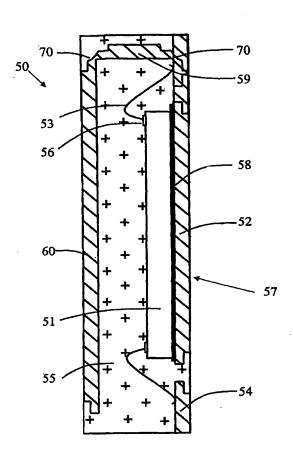
(71) Applicant (for all designated States except US): RF MOD-ULE AND OPTICAL DESIGN LIMITED [GB/GB]; 9 Cromwell Place, London SW14 7HA (GB). (72) Inventor; and

(75) Inventor/Applicant (for US only): HOLLAND, Andrew [GB/GB]; 9 Cromwell Place, London SW14 7HA (GB).

- (74) Agent: PEEL, James, Peter; Barker Brettell, 10-12 Priests Bridge, London SW15 5JE (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: SEMICONDUCTOR PACKAGE WITH INTEGRATED HEATSINK AND ELECTROMAGNETIC SHIELD



(57) Abstract: The invention provides a mounting for a printed circuit board which mounting is suitable for receiving a semiconductor assembly wherein the mounting comprises: a base support having a semiconductor assembly facing surface, and an opposed printed surface board facing surface; a cover having a semiconductor assembly facing surface, an opposed heat radiating surface; a connecting formation which joins the cover to the base support and provides an electrical and thermal communication between the cover and the base support wherein the connecting formation has a semiconductor assembly facing surface, an outer opposed surface and a thickness between the two surfaces; and a plurality of package connectors extending from the base support each of which package connectors have a printed surface board facing surface; an array of mountings; and a semiconductor package comprising a semiconductor assembly having one or more semiconductor chips, which assembly is mounted on the mounting wherein the package connectors of the mounting are in a spaced relationship with the base support and are linked electrically with the semiconductor assembly and the cover is arranged to be in a spaced parallel relationship with the base support.



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.